

Work Order ID 62002

Wednesday, September 15, 2010 9:55:08 AM

Page 1

Item ID: D3488-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Blade Fitting Assembly, LH

Start Date: 9/14/2010 Start Qty: 10.00

Cust Item ID:

Required Date: 9/21/2010 Req'd Qty: 10.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3488

Rev B

100

0.00



DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Dwg DSK 101 & Folio FA625□2-Deburr

rf 10.9.28

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

rf 10.9.28

10

120

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA625 & Dwg D3488□2-Deburr

JL 10/10/25

10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

JK 10/10/25

10

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

JA 10/10/25

10

150

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

AK 10-10-25

10

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Start Date: 9/14/2010 Start Qty: 10.00

Cust Item ID:

Required Date: 9/21/2010 Req'd Qty: 10.00




Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>M 11521</i>	0.00 <i>10-10-26</i>				<i>10</i>			
	Memo START TIME: <i>12:00</i> <i>320°</i> FINISH TIME: <i>12:30</i>	0.00							
170  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 <i>=) All 10/11/10</i>				<i>10</i>	<i>9</i>		
		0.00							
180  HandFinish Hand Finishing	HandFinishing Memo Install Inserts as per Dwg D3488	0.00 <i>=) All 10/11/10</i>				<i>10</i>	<i>9</i>		
		0.00							

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Page 4

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Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				<u>MF</u>	<u>10</u>	<u>11</u>	<u>10</u> (10)
200  Packaging Packaging	Identify as per dwg & Stock Location: <u>1P-8</u> Memo	0.00 0.00	<u>21</u>	<u>101111</u>		<u>10</u>	<u>0</u>		
210  QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				<u>MF</u>	<u>10/11/10</u>		<u>10-11-10</u>

W/O:		WORK ORDER CHANGES					
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, September 15, 2010 9:55:12 AM

Page 1

Work Order ID: 62002

Parent Item: D3488-041

Parent Item Name: Blade Fitting Assembly, LH

Start Date: 9/14/2010

Required Date: 9/21/2010

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A New Issue 06-02-28 JLM
IPP Rev:B As per Rev B 06-03-30 JLM
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

ALS7-1032-225 Purchased No



INSERT

Location

Loc Qty

Loc Code

ST282

747

M110768

x40

100896

100

102018

47

111529

300

111581

300

D6103-003 Manufactured No



Round Billet, Aluminum

Each

19.0000

1

10

Location

Loc Qty

Loc Code

MAT43

19

42281

1

55430

18

(x10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	42002
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.150	/			VERIFIER UNLESS OTHERWISE SPECIFIED.
Ø2.780	+/-0.005	2.778	/			
Ø3.125	+/-0.010	3.124	/			
Ø3.346	+/-0.010	3.346	/			
0.125 x 45°	+/-0.010 x +/-0.1°	.125 x 45°	/			
8.000	+0.030/-0.000	8.015	/			
9.250	+/-0.010	9.250	/			
0.188	+/-0.010	.188	/			
R0.032	+/-0.010	R.032	/			RAD GAGE
R0.062	+/-0.010	R.062	/			RAD GAGE
Ø0.297	+0.005/-0.001	.300	/			
Ø0.430	+/-0.010	.430	/			
0.100	+/-0.010	.103	/			
0.125	+/-0.010	.128	/			
2.620	+/-0.010	2.624	/			
3.500	+/-0.010	3.500	/			
1.005	+/-0.010	1.005	/			
Ø0.484	+0.005/-0.001	.485	/			
1.180	+/-0.010	1.180	/			
3.150	+/-0.010	3.150	/			
3.070	+/-0.010	3.070	/			
R0.063	+/-0.010	R.063	/			RAD GAGE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	<i>62002</i>
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 2 of 2	

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	<i>.508</i>	✓		<i>VRM JL-3</i>	
0.750	+/-0.010	<i>.753</i>	✓		<i>H-G</i>	
1.500	+/-0.010	<i>1.500</i>	✓		<i>VRM JL-3</i>	
11.18	+/-0.030	<i>11.182</i>	✓		<i>H-G</i>	
R0.062	+/-0.010	<i>.062</i>	✓		<i>R-G</i>	
0.125	+/-0.010	<i>.127</i>	✓		<i>VRM JL-3</i>	
0.590	+/-0.010	<i>.590</i>	✓		<i>H-G</i>	
0.793	+/-0.010	<i>.795</i>	✓		~	
1.351	+/-0.010	<i>1.347</i>	✓		~	
1.317	+/-0.010	<i>1.315</i>	✓		<i>VRM JL-3</i>	
1.802	+/-0.010	<i>1.804</i>	✓		<i>H-G</i>	

Measured by: <i>AL/SL</i>	Audited by: <i>A.A</i>	Prototype Approval:	N/A
Date: <i>10-9-28/01/025</i>	Date: <i>10/10/25</i>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-041	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM <i>JA</i>	<i>JA</i>

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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DRAWING NO. D3183	TITLE BRACKET ASSEMBLY	REV.C1	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3183-C1-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>qp</i>	CHECKED <i>[initials]</i>	MFG. APPR. <i>[initials]</i>	APPROVED <i>[signature]</i>		DE APPR. <i>[initials]</i>		
DATE 10.05.14	DATE 10.06.30	DATE 10.06.30	DATE 10/06/30		DATE 10/06/30		

D3183-5 BEARING

ADD POSSIBLE SUPPLIER: KML P/N 6800-ZZ

BASIC LOAD RATING REQUIREMENT: Cr = 1720 N (386 lb) MIN [DYNAMIC]
Cor = 840 N (188 lb) MIN [STATIC]

REF PAR 10-012

SHOP COPY
RETURNED
ENGINEERING
UNCONTROLLED
SUBJECT TO
WITHDRAWAL
NO. *62002*
10-9-13

RELEASED
2010-07-22
[signature]

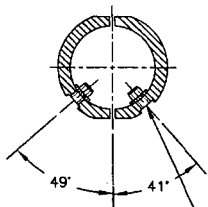
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

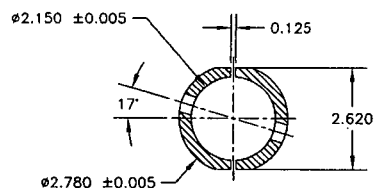
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



SECTION B-B

Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)



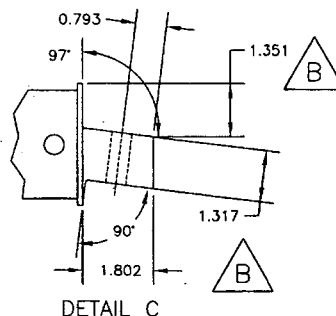
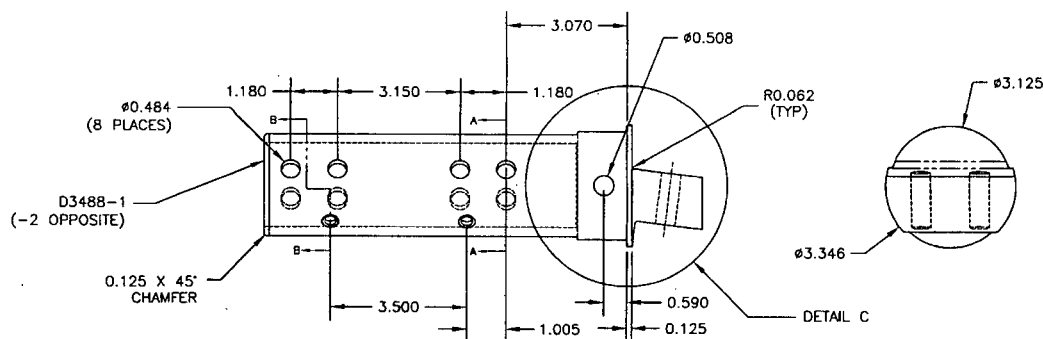
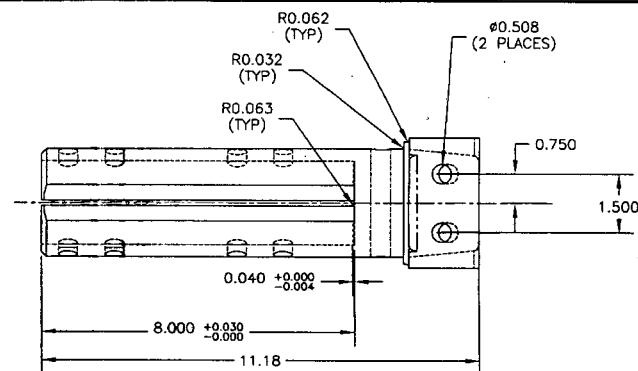
SECTION A-A

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

D3488-041/-042 BLADE FITTING

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR
PER QQ-A-225/9
(REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



DETAIL C

D3488-041 SHOWN (D3488-042 OPPOSITE)

w/o 62002

RELEASED
06-03-15 PH
REV. 05
ECN #789

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED PH	APPROVED PH	DRAWING NO. D3488
DATE 06.03.15	TITLE BLADE FITTING	REV. B SHEET 1 OF 1 SCALE 1:3

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DART AEROSPACE USA, INC.

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